

# WEST Search History

DATE: Thursday, August 14, 2003

| <u>Set Name</u>  | <u>Query</u>   | <u>Hit Count</u> | <u>Set Name</u> |
|--|--|------------------|-----------------|
| side by side   |  |                  | result set      |
| <i>DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR</i> |  |                  |                 |
| L17  | L15 and (coat or coated or coating)  | 205              | L17             |
| L16  | L15 and coating  | 169              | L16             |
| L15  | L10 and (hydrophobic or hydrophobic adj3 particle\$)   | 225              | L15             |
| L14  | L1 and (hydrophobic or hydrophobic adj3 particle\$)  | 6016             | L14             |
| L13  | L10 and freeze adj3 shatter\$  | 0                | L13             |
| L12  | L10 and freeze-shatter\$   | 0                | L12             |
| L11  | L10 and gel adj5 core\$  | 3                | L11             |
| L10  | L9 and (agar or gelatin or carageenan or gellan adj3 gum or magnesium adj3 sodium adj3 silicate) | 556              | L10             |
| L9   | aqueous adj3 suspension same (\$particle\$ or powder) and (cosmetic or make-up)                  | 1262             | L9              |
| L8   | L4 and powder\$ adj3 gel   | 10               | L8              |
| L7   | L3 and gel adj3 core   | 4                | L7              |
| L6   | L5 and gel adj3 core   | 3                | L6              |
| L5   | L4 and (cosmetic or make-up)   | 114              | L5              |
| L4   | L3 and (agar or gelatin or carageenan or gellan adj3 gum or magnesium adj3 sodium adj3 silicate) | 2194             | L4              |
| L3   | aqueous adj3 suspension adj5 (microsphere\$ or powder or microparticles or particles)            | 6523             | L3              |
| L2   | L1 and aqueous adj3 suspension   | 12968            | L2              |
| L1   | suspension adj5 (microsphere\$ or powder or microparticles or particles)                         | 43146            | L1              |

END OF SEARCH HISTORY

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result set

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|     |             |   |     |
|-----|-------------|---|-----|
| L15 | 3639572.pn. | 1 | L15 |
| L14 | 4423031.pn. | 1 | L14 |
| L13 | 5358990.pn. | 1 | L13 |
| L12 | 5372890.pn. | 1 | L12 |
| L11 | 5412004.pn. | 1 | L11 |
| L10 | 5721026.pn. | 1 | L10 |
| L9  | 5811487.pn. | 1 | L9  |
| L8  | 5928660.pn. | 1 | L8  |

*DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR*

|    |  |       |    |
|----|--|-------|----|
| L7 | L3 and (cosmetic or make-up)   | 114   | L7 |
| L6 | L4 and (cosmetic or make-up)   | 101   | L6 |
| L5 | L4 and cosmetic  | 98    | L5 |
| L4 | L3 and (antiseptic\$ or humectant or freshener or menthol or ethanol or ethylene adj3 glycol or surfactants) | 1759  | L4 |
| L3 | L2 and (agar or gelatin or carageenan or gellan adj3 gum or magnesium adj2 sodium adj3 silicate)             | 2194  | L3 |
| L2 | aqueous adj3 suspension\$ adj5 (microsphere\$ or powder or microparticles or particles)                      | 6523  | L2 |
| L1 | suspension\$ adj5 (microsphere\$ or powder or microparticles or particles)                                   | 45693 | L1 |

END OF SEARCH HISTORY

## WEST

 Generate Collection 

L7: Entry 78 of 114

File: USPT

Sep 23, 1997

DOCUMENT-IDENTIFIER: US 5670490 A

TITLE: Porous particle aggregate and method therefor

Brief Summary Text (6):

Functional substances can be easily introduced into the reticular volume of the present porous aggregates. The high intraaggregate reticular volume and high internal surface area of the present aggregate compositions allow high loading of functional substances. The loaded porous aggregate compositions of this invention are free flowing powders which facilitate handling and mixing of the functional substance in product formulations and further provides a matrix for sustained or prolonged release of the carried functional substance. Additionally, it is contemplated that the particle aggregates in accordance with this invention will exhibit functionality independent of their use as a carrier for functional substances. Thus, they may be used in prepared foods that require minute gritty character, either in mouth feel or in appearance. The particle aggregate composition in accordance with this invention has utility in the areas of food/nutrition, the preparation of topical creams and lotions, deodorant/antiperspirants, cosmetics, agricultural products, and products for human and veterinary medicine. The present compositions can be designed to enhance and prolong the functional characteristics of contained functional compositions. Alternatively, the present composition can function to protect the contained functional substance from premature degradation. For example, orally administered pharmaceutical compositions can be formulated with/in the aggregate compositions, preferably the granular starch-based compositions of this invention, to provide an enteric formulation which functions to protect the active substance from the acid/digestive conditions of the stomach and thereafter release the active substance in the small intestine.

Brief Summary Text (13):

The porous particulate aggregates in accordance with this invention are prepared by spray-drying a slurry of particles in a solution of a binder component. The chemical nature of the binder is not critical, except to the extent the binder should exhibit some threshold affinity for the surface of the discrete particles so that it can operate to bind the aggregated particulates together at least at their points of contact during the spray-drying process. Inherently, too, the binder component must have some threshold solubility in the liquid used to suspend the particle component prior to the spray drying operation. That liquid is typically water, however, other liquids such as C.<sub>sub.1</sub> - C.<sub>sub.6</sub> alcohols, ethers and ketones may also be employed where the targeted functionality of the porous particle aggregate requires use of a binder not having the threshold solubility in water. Preferably, however, the porous particle aggregates in accordance with this invention are prepared by spray-drying aqueous suspensions of discrete particles, preferably starch granules, suspended in an aqueous solution of a binder.

Brief Summary Text (14):

There exists a wide variety of suitable binders that can be used in the formation of the present particle aggregates. They are, most typically, polymer compositions exhibiting the requisite degree of solubility in the liquid carrier for the particle suspension spray dried to form the porous aggregates. The polymer materials can be water soluble, water insoluble, biodegradable/bioerodible, not biodegradable, natural, synthetic, or semisynthetic--the binder to be selected for any particular application being dependent on the desired functionality, chemical/physical stability and release characteristics of the targeted aggregate in accordance with

this invention. Preferred binders for use in accordance with this invention are biodegradable polymers such as polysaccharides including gums such as guar and locust bean gums, pectins, agar, alginate, gelatin, dextrins, dextran and derivatized starches and cellulosic materials such as carboxymethyl cellulose, hydroxymethyl cellulose, hydroxypropyl cellulose, and the like, proteins, particularly proteins other than those endogenous to the starch granules used to form the aggregates, and polyesters. Polysaccharides are preferred binders for use in accordance with the present invention. The binder components can also be non-biodegradable, synthetic or semi-synthetic polymers, such as polyvinyl alcohol, poly-N-vinyl-2-pyrrolidone, and polymers or co-polymers of acrylic or methacrylic acid and amide derivatives thereof, including polyacrylamide.

Detailed Description Text (9):

The small granular fraction of wheat starch obtained by size classification of native wheat starch is slurried in an aqueous medium containing medium viscosity methylhydroxypropyl cellulose and spray dried to produce substantially spherical aggregates of small wheat starch granules. The aggregates are dispersed in mint oil, centrifuged and thereafter washed with ethanol in a fritted glass funnel and dried to provide a mint oil loaded aggregate composition containing about 48% by weight mint oil. The mint oil loaded starch aggregate composition was then spray coated with a 0.5% solution of gelatin. The coated spheres were essentially without odor, but released mint oil and odor when they were rubbed on a glass plate with a metal spatula.

Detailed Description Text (23):

The small granular fraction of wheat starch is slurried in an aqueous solution of 0.1% gelatin and spray dried to produce porous, substantially spherical aggregates. The aggregate composition is slurried in an alcoholic solution of an orally effective antibiotic filtered and dried. The dried aggregates are coated in a fluidized bed coating machine with a 0.5% solution of ethyl cellulose of the type used for tablet coating. The coated aggregates are filled into capsules for oral administration.